DRAFT

Permit Application from Flathead County for Boat Ramp Construction on Church Slough

Supplemental Environmental Assessment

June 2013

Montana Fish, Wildlife & Parks

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Abbreviations

AIS	Aquatic Invasive Species
ARM	Administrative Rules of Montana
CEIC	Census and Economic Information Center
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FLT	Flathead Land Trust
FWP	Montana Fish, Wildlife & Parks
MCA	Montana Code Annotated
MEPA	Montana Environmental Policy Act
MFW	Montana Wildlife Federation
MNDNR	Minnesota Department of Natural Resources
MNHP	Montana Natural Heritage Program
MVD	Motor Vehicle Division
NRCS	Natural Resource Conservation Service
USCG	U.S. Coast Guard

Preface

In October 2009, Flathead County submitted an application for a 124 permit pursuant to the Montana Stream Protection Act (87-5-501 through 87-5-504 MCA) to Montana Fish, Wildlife & Parks (FWP) in preparation for the development of a boat ramp at Church Slough. In response to the application, FWP prepared an environmental analysis pursuant to the Montana Environmental Policy Act (MEPA) and Administrative Rules of Montana (ARM) 12.2.430 through 12.2.433. FWP review of the county's design plan was to determine if the plan is technically sufficient and if the project would adversely affect any fish or wildlife habitat in accordance with the Stream Protection Act.

The following chart chronicles the events following the preparation of the environmental analysis and why this supplement was prepared:

Event:	Date:
FWP environmental assessment distributed for public review.	February 2010
FWP decision notice published.	April 2010
Lawsuit filed to challenge FWP's decision.	June 2010
County boat ramp closed by court order.	June 2012
FWP remanded by District Court to complete a supplemental MEPA analysis document.	January 2013

This document focuses on the directions set forth in the remand order by Flathead District Court, which requires FWP to analyze a new alternative that was not included in the 2010 environmental assessment (EA) and complete a more comprehensive analysis of secondary and cumulative impacts of the proposed action. The significance of those impacts to the human environment, both beneficial and adverse, is determined by using the criteria described in ARM 12-2-431(a-g).

For the benefit of the reader, portions of the original 2010 EA are included in this document and shown in *italics* and the new text in standard type font. The original EA and its decision notice can be located through http://fwp.mt.gov/news/publicNotices. The time period of the additional analysis is preconstruction of the boat ramp and associated improvements, relying on information and research available when Flathead County's 124 permit application was originally reviewed by FWP.

Public review and comments are requested on the supplemental components including the new alternative (Alternative C) and analysis of secondary and cumulative impacts for all alternatives.

As a point of clarification, the description of the No Action Alternative (Alternative A) as provided in the original 2009 EA did not fully explain the process that would have been triggered if the county's 124 permit request were denied by FWP. Under the Stream Protection Act (Section 87-5-501 et.seq., MCA) FWP must inform the applicant if the proposed project will adversely affect fish or game habitat. If FWP does inform an applicant that the project, as proposed, would adversely affect fish or game habitat, FWP must recommend alternative plans that would eliminate or diminish the adverse effect. Therefore, a "denial" does not necessarily

equal a project's termination. Rather, if the applicant refuses to modify its plans in accordance with FWP's recommendations, it may initiate an arbitration process. When FWP first considered the application, it recommended minor project design changes that were accepted by the county. Had FWP concluded it was necessary, the recommendations could have included the carry-in boat launch option described as Alternative C in this document. For the purposes of this supplement and for continuity with the 2009 Church Slough EA, the No Action Alternative will remain defined as a denial of the permit application. This definition of a no action alternative meets the requirements of MEPA.

1.0 Purpose of and Need for Action

1.1 Proposed Action, as originally stated

Montana Fish, Wildlife & Parks proposes to examine and make a decision on whether or not to grant approval for a Montana Stream Protection Act (SPA 124) permit application submitted by Flathead County for construction of public boat access to Church Slough. The proposed project includes construction of a vehicle turnaround, parking, and installation of a concrete boat launch on county-owned property.

Flathead County provided FWP a Stream Protection Act 124 Permit application that included a written description and drawings of the proposed construction.

Flathead County proposes to construct a vehicle turnaround, parking, and boat launch on Church Slough to provide safe access to the water body for users and anglers. The proposal will reestablish opportunity for public users to launch boats and safely walk down the bank to the water's edge. There was a small primitive boat access on private property immediately adjacent to the site prior to Flathead County abandonment of the road right of way. The previous site is now closed to public use.

Proposed construction includes a vehicle turnaround, parking, and concrete boat launch. The vehicle turnaround is located on the upper terrace roughly 50 to 60 feet back from the water's edge at the previous location of the county road prism. The 105-foot-long boat ramp would have a 12-foot-wide concrete running surface and extend to a depth three feet below the full pool elevation about 35 feet out from the bank. Roughly 45 feet of linear bank will be disturbed at the top of the bank. An excavator will work from the upper bank. Rock riprap will be placed along the toe of the disturbed bank to reduce future erosion.

The project site has been manipulated over time. The upper terrace was in agricultural production prior to residential subdivision. The immediate upper bank was previously a paved county road. The sloped bank is a combination of exposed rock and primarily grass and shrub vegetation. A few cottonwood trees are on the sloped bank.

FWP will notify the applicant whether or not the proposed construction project will adversely affect fish or wildlife habitat, what modifications are required, and whether or not the project will be permitted.

Figure 1. The proposed project is located on Church Slough (T28N, R21W, S36). The county access site is located on Wagner Lane, north of the intersection with Lower Valley Road. The star identifies the approximate location of the county's property at the slough.

Figure 2. Proposed project site is located in the center of the photo, outlined in yellow (2005 aerial photo). The path of the realigned Wagner Lane is shown as the double serpentine shape.

2.0 Alternatives

2.1 Summary of Alternatives A & B

2.1.1 No Action

FWP would deny the proposed construction. No Action Alternative would leave the site in its current state, with limited public boating opportunity and difficult and unsafe pedestrian access to the water's edge. Public users would continue to use the site in the existing condition, including trespassing onto a neighboring property to access the water. This alternative may result in a risk of lawsuits against Flathead County to replace access that existed prior to abandonment of the road easement.

2.1.2 Proposed Action

FWP would approve proposed construction with or without modifications to reduce impacts to fish and wildlife habitat. Additional mitigation activities may be identified during the review process and included in the permit to Flathead County and the record of decision.

2.2 Alternative C: Carry-in Boat Access Option

Under this alternative, FWP would recommend a modification to Flathead County's request to build a formal boat ramp area at the property as originally described. Instead, FWP would request the county provide a carry-in boat access, which would require boat owners to transport their boat or personal watercraft (i.e., kayak, canoe, jet ski, etc.) between the parking area and shoreline by hand or with the use of a hand trailer.

Historically, the entire frontage of the county-owned parcel had a near-vertical 6'-8' bank with no landing area at the water's edge, and it did not allow for a safe carry-in launch. Typically, small motorboats with lengths of 12-14 feet have used this access point. Therefore, the bank would need to be modified to allow up to 2 boaters to carry a small boat, walking on each side to handle the craft safely. This modification would require a 3' width for each person, along with a 4'-5' width for the boat, which would require that a gravel ramp to be 10'-11' wide with a grade less than 10%. Additionally, FWP would request the county adhere to their original design components for improving the site with the addition of a gravel turnaround and small gravel parking area.

Figure 3. Bank of Church Slough as seen from the water's edge. Picture taken April 2008 by FWP staff.

3.0 Affected Environment & Predicted Environmental Consequences

3.1 Land Use

Flathead County's property accessing Church Slough is currently undeveloped agricultural land. It's been used to cultivate crops such as alfalfa prior to its being deeded to the county.

During previous ownership, the site was a primitive access point (i.e., pioneered dirt parking and boat ramp) to the slough from Wagner Lane's original shoreline path until the lane's realignment away from the slough in 2008. The primitive access area consisted of an "improvised parking area 300 feet from the shoreline and 3,400-foot practical access to the slough enjoyed by the public for years" (MWF Newsletters Feb/March 2007 and April/May 2007) and was located approximately at the northeast boundary of the county's property. The 3,400-foot length refers to the entire length of Wagner Lane that was decommissioned.

Figure 4. Picture of the interior area of the county's property looking from the slough toward Wagner Lane. Picture taken in April 2008 by FWP staff.

Figure 5. Picture of the slough shoreline at the county's property looking south. Picture taken in April 2008 by FWP staff.

Since the decommission of the original path of Wagner Lane and its realignment, some members of the public have attempted to reestablish access to the slough by trespassing through neighboring properties, removing private fencing along the slough's shoreline, and pioneering pathways across the county property.

Figure 6. Northeast corner boundary of the county property showing the asphalt from the old road prism, boundary fence erected by the neighboring landowner, and section removed by trespassers. Picture taken in March 2010 by FWP staff.

Additional access to the slough is provided by its connection with Flathead River during high water and via private properties adjacent to the slough. Private property borders the north and south sides of the county's property.

The site is currently open to year-round use, and Flathead county boat access sites currently have night closures from 11:00 p.m. to 6:00 a.m.

Alternative A - No Action:

Direct: Under this alternative, the site would remain as open space. The county would not be able to replace the loss of access to the slough at the location. The members of the public may continue to trespass through neighboring property, damage private fencing, and pioneer new pathways to access the slough at the site.

The slough would continue to be a destination for angling, waterfowl viewing, and other water-based recreation activities. The water would still be accessible through private properties adjacent to the slough and from the Flathead River.

Secondary: Potential secondary impacts of the No Action Alternative are 1) previous users of the primitive boat ramp would use other public boat ramps on

the Flathead River to launch their boats in order to recreate on the slough, thus potentially increasing the use of those ramps and contributing to the congestion of the river near its confluence with the slough, 2) people may continue to use the property as a walk-in access point for picnicking, fishing, and wildlife viewing at the slough, and 3) Alternative A would result in a net loss of public access to a public water body. As the county continues to grow in population, loss of access to water bodies would affect boating opportunity and use levels. Flathead County would be at risk of a lawsuit for failure to replace public access lost as a result of the county abandoning Wagner Lane. A sportsman group has previously informed the county that they would pursue such a legal action if replacement access at the slough were not completed (Flathead County 2007).

Cumulative: If the county were unable to develop the site into a formal boat ramp area, the property would remain open space and provide a small addition to the overall open space values of the county and the local area. The county could still construct road and turnaround without a permit, only potential difference between this No Action and Alternate B is ramp construction. The Flathead County Growth Plan reflects this sentiment. It states that "Flathead County residents value open spaces associated with living in big sky country," and "recreation, the natural environment, and economy all benefit when open spaces link up and allow a natural flow of humans and wildlife."

Alternative B - Approval of County Plans and 124 Permit:

Direct: If FWP were to approve the permit application and the county completed their development plans, approximately 40% of the 1.78-acre site would be directly impacted by the conversion of open land for a turnaround, parking area, and concrete boat ramp.

Secondary: Anticipated secondary impacts may include increased particulates in the air generated from vehicles using the new access road and parking area. Actual change in particulate levels in unknown since the development of the site is new and actual user levels are unknown. See Section 3.8 for additional information regarding air quality.

Cumulative: The development of a formal boat ramp area would contribute, on a small scale, to the additional conversion of open-space lands within the county to residential and commercial developments. As described in the Flathead County Growth Plan, characteristics of open space within the county can have various meanings, including areas that maintain the viewsheds of mountains and lakes, the rural "open" feeling of the region, preserve natural habitats, and provide linkages between areas for humans and wildlife. There are no accurate data for the number of acres converted from agriculture to other uses in Flathead County each year, but that conversion is a primary concern for many residents of Flathead County (Flathead County 2012).

Alternative C - Carry-in Boat Ramp Option:

Direct: Similar to Alternative B, portions of the county property would be converted from open space to dedicated uses, such as a gravel boat ramp, turn-out, and parking lot. A carry-in boat ramp design would not measurably alter the direct impacts described for Alternative B.

Secondary and cumulative: Anticipated secondary impacts for this alternative are identical to those of Alternative B.

3.2 Soils

The soil present at the property is Swims silty clay loam with slopes of 0 to 4 percent (NRCS 2013), except along the slough's shoreline where the bank has a steep slope of approximately 6-10 feet above the actual shoreline (Flathead County Permit Application 2009). Bank soils consist of fine material, primarily silt (diameter 0.05 to 0.002 mm) with some sand and clay particles. Fine sediments were deposited in the Flathead Valley thousands of years ago during glacial periods. Gravel or cobble is present on at least some of the banks of Church Slough. (See Figures 3, 5 and 6 that show gravel and cobble on banks along the county property). This soil type has the following properties and qualities: moderately well drained, slightly susceptible to site degradation, severe soil rutting potential, and considered to have a resistance for soil compaction (NRCS 2013). See Figures 3 and 5 for pictures of slough's shoreline. This soil type has a farmland classification of "prime farmland if irrigated" (NRCS 2013).

The configuration of shoreline of the slough has been altered (erosion and accretion) by waves associated with seasonal changes of water levels, freeze/thaw events, and wave actions from natural and man-made forces (i.e., wind, motorboats, etc.) since historic through modern times.

Alternative A - No Action:

Direct: No direct impacts would be expected to occur to soils because the county would not move forward with the development of the site since the permit for the boat ramp was denied.

The likelihood of some soil erosion (subaerial and sloughing) to occur in the future, even if the permit is denied, is high because of the ongoing factors that affect the rate of bank erosion on the Flathead River, including dam operations, wind waves, river current, and boat wakes. To date there has not been a study to assess the relative contribution of each of these processes to the rate of erosion specific to Church Slough, but some general predictions can be made based on published scientific research.

On Church Slough, river current and wind waves have relatively little influence on bank erosion rates since there is almost no current in the slough and the narrow widths of the slough reduce the potential for large wind waves to form. The main influences to shoreline soil stability comes from changes in water levels that saturate and expand soil types, which leads to gravity slumping and waves caused

by boats (M. Lorang, Flathead Lake Biological Station personal communication 4/2/13).

Bank soils present along portions of the slough consist of fine material, primarily silt (diameter 0.05 to 0.002 mm) with some sand and clay particles; no gravel or cobble is present. The vegetated widths of the slough are narrow in some reaches, thus boat wakes can break on these fine soils possibly creating vertical banks or undercutting vegetation. Vegetation stabilizes banks primarily by increasing shear strength of the soil (Thorne & Lewin 1979; Gray & MacDonald 1989; Simon & Collison 2001). Different vegetation life forms (e.g., herbaceous, woody shrub, tree) and species can have different root-shoot architectures and biomass - both above and below ground - which influence the ability of vegetation to stabilize banks of streams and rivers (Mallik & Rasid 1993).

Wakes are a natural product of boating. All boats create some wake. The erosive power of a boat wake is dependent on the energy of the wave which corresponds to the height of the wave (Bauer et al. 2002). A boat creates a "packet of waves" that are collectively referred to as the "boat wake," and erosion per boat passage is a function of the total kinetic wave energy in each wave of the wake packet and that is best represented by the height of the largest wave (Bauer et al. 2002). Results from a 2002 study completed in the Sacramento-San Joaquin River Delta in central California produced erosion estimates of 0.0004 – 0.008 inches/boat passage (Bauer et al. 2002). These measurements were not used as a basis for estimating erosion rates at the slough because the site's features were considerably different to those at Church Slough (e.g., clay/silt, a channel width of 131 feet, and strong tidal flows).

At a displacement speed, this is the slowest speed for most boats and occurs when the boat operates with the bow down and the boat generates a very small wake. At a transitional speed, this is when the power is applied and the bow rises, the largest wakes can be generated as the boat plows through the water moving toward a planing speed. During the planing speed, typically only a small portion of the hull is in contact with the water, thus creating a smaller wake than at the transitional speed (MNDNR 1993).

Observations made by the Minnesota Department of Natural Resources in a 2003 study on the Mississippi River have shown waves that are 5 inches high, which were generated by controlled boat runs operating at 5 miles per hour, generated maximum wave heights below the erosive energy threshold of 0.4 feet (MNDNR 2004). Whereas, a wake of 10 inches high is five times as destructive to the shoreline as a 5-inch wake, and a wake of 25 inches has a destructive potential of 30 times greater (MNDNR 1993). The summary presentation for the 2004 Minnesota report reflected the following data regarding maximum wake wave heights for different types of vessels: wave height decreases as the distance from shore increases, that is, the wave becomes smaller with distance traveled.

Figure 7. Maximum wake wave heights.

	Distance from Sailing Line in Inches		
Vessel Type	0 to 100 ft	100 to 300 ft	300 to 500 ft
Sailboat	N/A	N/A	N/A
Jet skis	3.15	1.57	0
Fishing boats	6.3	3.15	1.57
Pontoon	3.15	1.57	1.57
Medium power boats	9.45	7.87	3.94
Large cruisers	19.69	15.75	7.87
House boats	3.15	1.57	1.57

A 2002 study completed on the San Joaquin River Delta in California used a 24-foot boat to find that the largest waves were generated at speeds between 14-17 miles per hour (12-15 knots). Erosion estimates were calculated to be 0.0004-0.0009 inches (0.01-0.22 millimeters) per boat passage (Bauer et al. 2002).

Secondary: Pathways created by walk-in users of the property could expose soils and possibly contribute to the establishment of new erosion patterns near the shoreline of the slough, thus increasing debris to the water. Compaction of soil due to foot traffic may also decrease the potential for natural restoration of those areas by native shrub species; however, noxious weeds may become established.

Cumulative: Negligible cumulative impacts are anticipated if the No Action Alternative were chosen. The site would still be open for public use, and the county would still have the opportunity to construct the parking area and turn-around on their property. People would continue to have the ability to walk across the county property to access the slough if no improvements are initiated. Soils would likely become compacted in areas where paths or the parking and turn-around are established. There is also the possibility that a pioneered boat access point may become established over time that may contribute to the erosion of the channel's bank in the future.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *The construction site has been previously impacted with road construction and demolition and with agricultural activities. Fill will be placed on the slough bed for the launch ramp, covering an area of roughly 14 by 35 feet. Roughly 45 feet of bank will be impacted by the launch construction.*

Bank erosion in the proposed disturbed area will be prevented by placement of rock riprap. No modification of the slough channel associated with siltation, deposition, or erosion is expected. This proposal is similar in level of disturbance to three permits issued by the Flathead County Conservation District in the last two years to private landowners adjacent to the county property. Construction of a public boat ramp on the slough will reduce the need for individual private landowners on the slough to construct boat ramps.

Construction of a boat ramp would be expected to increase boat use. There is concern increased boat use could increase shoreline erosion due to boat wakes. Boat use and regulation could be addressed under a boating use petition to the Montana Fish, Wildlife & Parks Commission. Flathead County could also put restrictions on boats launching at the county property.

Erosion and Boats

As described for Alternative A, soil erosion is caused by two main forces within Church Slough. Seasonal changes in water levels through the operation of the Kerr Dam, and waves caused by boats recreating on the slough and similarly to Alternative A would likely continue at some level.

Estimating additional erosion effects that may occur by boats and personal watercraft entering from this county property is difficult to predict since it would be extremely difficult to distinguish effects by boats from this launch and those from boats entering from private boat ramps or the Flathead River and natural influences previously described.

No formal survey on the type of boats and personal watercraft using Church Slough has been completed. Only causal observations of what types and sizes of watercraft using the slough exist. The proposed concrete boat ramp would not restrict the types of boats and watercraft that could be launched from that location. However, the water's depth on the submerged portion of the ramp would limit some sizes of boats; if there is not enough water to float the boat, then no launch could occur.

Contributions to erosion by boat wakes can be decreased through changes of boating use restrictions. The FWP Commission has the ability to institute a no-wake rule for Church Slough to reduce boating use by an undetermined percentage by restricting boaters who wish to water ski or boat at faster speeds. Such a restriction would reduce the major cause of wave-induced erosion - wave size, but some erosion is likely to continue to occur because not all boaters would follow the restriction. Some slow speed boating activities would continue, and the no-wake rule may attract additional nonmotorized boaters who are looking for calmer conditions. A no-wake restriction could move some boaters to other water bodies, thus increasing usage levels at those locations. County imposed site restrictions would not reduce impacts from other boats that did not originate at the county site, since there is access from private ramps on the slough and from the Flathead River.

Erosion in General

The seasonal changes in water levels within the slough would continue to contribute to the erosion and accretion of shoreline soils at different locations around the slough's perimeter. The county's concrete surface design of the boat ramp and installation of riprap on the adjacent shoreline would be more stable

than the exposed shoreline since the concrete ramp suffers a lower rate of erosion than the existing soil types, and the riprap provides a barrier from waves caused by boats.

Secondary: Secondary impacts predicted may include an increase in suspended sediment when the removal of subsurface plant cover and undercutting bank vegetation occurs by wave action resulting in bank erosion. Suspended sediments could prevent sunlight penetration to the slough bottom and limit plant growth if at high enough levels. However, as already described for the potential impacts of Alternative A, some level of erosion would continue to occur from changing water levels and wave action from boats accessing the slough from Flathead River and private property. There is no current information to indicate that this situation exists in Church Slough under the existing conditions or information that would indicate that the proposed boat ramp would lead to this condition.

The addition of sediment from boats launching from the boat ramp is not expected to adversely impact fish species or fisheries habitat because a limited number of watercraft are expected to be launched at the site given the limited parking area.

Cumulative: It is not determined at this time if there would be increased boat use due to the ramp construction and, if there were, how much that increase would be above current use levels. Additional use provides the potential for an increase in erosion, which would be added to the existing erosion rate. Without information on the existing erosion rate and potential additions, it is not possible to determine the magnitude of future potential impacts.

Alternative C - Carry-in Boat Ramp Option:

Direct: The proposed site improvements would disturb soils as the gravel boat ramp, turn-around, and parking area are established and their boundaries are delineated. The formalization of the recreation site would likely decrease disturbances to soils at other locations since the vehicle movements would be restricted to designated motorized vehicle routes.

Erosion of soils may occur if a gravel carry-in boat ramp is established depending upon the level of use because a gravel sloped surface would still be vulnerable to the current seasonal water level changes and to the waves generated by passing boats. Furthermore, water running downhill over the surface of a gravel ramp may introduce fine sediments to the immediate portion of the slough where the boat ramp meets the water, depending upon weather events and the use of the ramps.

Secondary: Carry-in design may reduce the number and size of motorboats launched. However, as shown previously, a small boat operated at lower speeds can generate a relatively large wake. Other secondary impacts are expected to be the same as Alternative B.

Cumulative: Similar to potential cumulative impacts described for Alternative B, it is difficult to quantify if soil erosion would measurably change, if a carry-in boat launch were established, from its current rates over time. Naturally induced erosion would continue and wave-related erosion from boats entering the slough from the river and from private properties would also continue.

3.3 Vegetation

As previously noted, the county's property was historically cultivated agricultural land with alfalfa remaining at the site and a paved county two-lane road. There are no native grassland species present. The slough's shoreline is edged by cottonwood trees and shrubs (i.e., wild rose, alder, hawthorn, etc.), and spotted knapweed is also present. See Figures 3-5 for pictures of interior of property and the shoreline vegetation.

Alternative A - No Action:

Direct: No direct impacts are anticipated if the permit were denied because no ground-disturbing activities would commence. The interior of the site and the slough would remain accessible by the existing gravel road within the property.

Secondary: It is predicted that some minor impacts to the existing vegetation would continue to occur at the site as visitors pioneer paths across to the slough's shoreline and park their vehicles at the property. Visitors may establish primitive boating accesses as has been done historically at the site.

Cumulative: The numerous pioneered paths to the shoreline of the slough and haphazard parking at the site may contribute to deteriorate the abundance and density of vegetation overtime on the upper portion of the bank, which could contribute to future shoreline erosion when plant vigor, density, and rooting depth are compromised (Heede 1980). Depending on the amount of pioneered access, the county may need to construct barriers to prohibit additional use if additional use were not desired.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *The existing vegetation along the approximately 45 feet of bank where the launch will be located will be removed. The toe of the disturbed bank will be stabilized with rock riprap. Flathead County proposes to reseed any disturbed areas with weed-free grass seed.*

The construction of the boat ramp would extend approximately 35 feet into the water and 70 feet away from the water into the property. The width of the ramp would be 12 feet.

The establishment of a formal boat ramp may reduce the disturbances to some of the existing vegetation at other locations at the property, such as along the shoreline, from visitors establishing multiple paths to the slough.

Secondary: If the 124 permit is approved, the county would also establish a formal unpaved access road to the boat ramp, designated parking, and vehicle turnaround for users. The parking area and vehicle turnaround would decrease surface vegetation in those specific areas, but would protect other vegetation on the property from pioneered vehicle paths being established. Historic use of the location did have a paved county road and road prism and pioneered paths for parking, turnaround, boat ramp, and walk-in use; all those activities did disturb the vegetation present at that time.

The shoreline disturbed by the installation of the boat ramp would be treated with riprap to decrease the potential for shoreline erosion that could negatively impact the remaining trees and shrubs. Disturbance and removal of vegetation along the shoreline could expose soils to increased erosion caused by waves generated by wave action (man-made and natural) and seasonal changes of water levels. See Section 3.2 for additional information regarding soil erosion.

Additionally, disturbed soils are potentially more susceptible to the establishment of noxious weeds. The county plans to decrease noxious weed infestations by active weed management using chemical and mechanical methods.

Also planned by the county, in conjunction with this project, is the planting of spruce trees along the northern boundary of the property adjacent to the proposed parking and turnaround areas to provide a visual barrier between the public use site and the neighboring property, as well as adding an additional species of vegetation to the site that could benefit wildlife and bird species by providing cover and nesting habitat.

Cumulative: The development of a formal boat ramp with a parking and turnaround area (> 1 acre) would contribute to the conversion of open space, agricultural land to a developed area. This impact would be a very small fraction of 3,363,840 acres within Flathead County. A possible beneficial cumulative impact may be that landowners near the slough would choose not to build their own boat launch at their property and use the county's instead, thus reducing vegetation disturbances at multiple locations around the slough.

Alternative C - Carry-in Boat Ramp Option:

Direct: Direct impact to vegetation if a carry-in boat launch were approved are anticipated to be identical to those described for Alternative B because the width of the gravel ramp would be nearly as wide as the concrete boat ramp. The construction of the gravel carry-in ramp would require the removal of some shoreline vegetation so that the existing steep slope can be reduced to ensure recreationists can safety launch their crafts.

Secondary: Secondary impacts for this alternative would be identical to those described for Alternative B, with the need of some disturbance to surface

vegetation for the development of the proposed site improvements. The slough's bank immediately adjacent to the ramp would be treated with riprap to protect and stabilize the bank from potential erosion and loss of vegetation.

Cumulative: Predicted cumulative impacts for Alternative C would be similar to the cumulative impact described for Alternative B in the conversion of a small open space area to a more developed recreation site. However unlike Alternative B, not all sizes of watercraft could be launched from this site; thus, larger motorboats would be required to be launched elsewhere. This situation could lead to additional private boat ramps to be built at the slough by landowners, which would likely disturb and decrease shoreline vegetation in multiple locations.

3.4 Wildlife Species

The lands adjacent to Church Slough are considered to be in the year-round range for white-tailed deer and black bear, as well as turkey, pheasant, and Hungarian partridge (MNHP 2013). Whitetails are very common in the general area, and the trees and brush near Church Slough are important hiding and bedding cover for them. Additionally, moose and black bear are occasionally seen in the vicinity of the slough.

Grizzly bears have been seen in various locations throughout the Flathead River Valley, although there have been no recorded observations of grizzlies near Church Slough. There have been four reports of grizzlies within 8 miles of the slough since 1990: six miles east in 1990, 7.5 miles east in 1998, and two at 5.5 miles north in 2001 and 2003 (MNHP 2013).

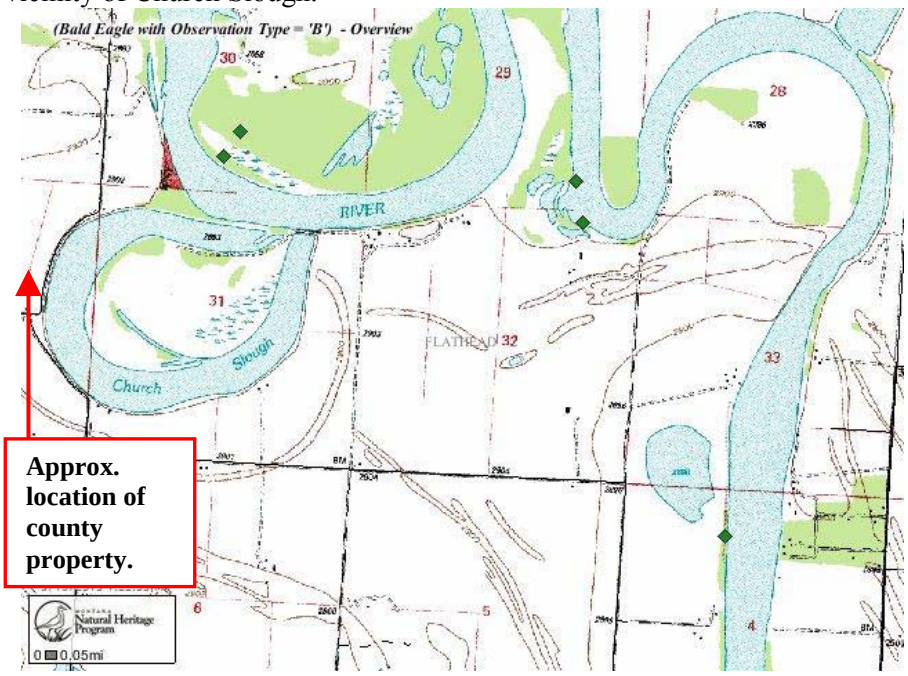
Numerous species of small mammals likely use the area around the slough, which may include coyote, red fox, raccoons, skunks, western pocket gophers, bats, voles, and mice.

Bird Species -

In General: The shoreline, wetlands, open space, and croplands, along with presence of migratory waterfowl, upland game birds, and small mammal populations, create excellent habitat for a high diversity and number of wintering/migrating/foraging raptors such as snowy owl, short-eared owl, ruff-legged hawk, northern harrier, red-tailed hawk including Harlan's phase, osprey, merlin, peregrine and prairie falcon, kestrel, sharp shinned hawk, and golden eagles. Another species that may be present or use the area seasonally include great blue heron (a Montana Species of Concern). Osprey forage and nest in the area.

Bald Eagles: There are five active bald eagle nests within a 3-mile radius of the county property (MNHP 2013). Observations regarding nesting and fledgling activities span 1993 through 2009 depending upon the nest site. The entire Flathead River Valley is considered bald eagle habitat, providing mature trees for perches and nests and open water for fishing.

Figure 8. Green diamond shapes depict the locations of eagle nests in the vicinity of Church Slough.



Waterfowl: Church Slough is an important stop for thousands of migratory waterfowl migrating north, and to a lesser extent south, each year. The wetland habitat along the slough's inner rim is important for cover, nesting, and foraging for visiting waterfowl.

The staffs of the American Bird Conservancy and FWP have been surveying Church Slough during the spring migration (March & April), with the highest number of waterfowl at the slough typically arriving the last portion of March and the first week in April. At its peak, the number of waterfowl that can be observed at the slough on a single day during the spring migration is 2,000 or more birds.

Through the surveys, there have been 26 waterfowl species identified at the slough during migration seasons.

Figure 9. Waterfowl species observed at Church Slough.

American Wigeon	Mallard
Barrow's Goldeneye	Northern Pintail
Bufflehead	Northern Shoveler
Canada Goose	Red-breasted Merganser
Canvasback	Redhead
Common Goldeneye	Ring-necked Duck
Common Merganser	Ross's Goose
Eurasian Wigeon	Ruddy Duck
Gadwall	Snow Goose
Greater Scaup	Trumpeter Swan
Green-Winged Teal	Tundra Swan
Hooded Merganser	Wigeon, hybrid
Lesser Scaup	Wood Duck

Figure 10. The timing of waterfowl use of Church Slough, 2008 and 2009 (Data courtesy of the American Bird Conservancy).

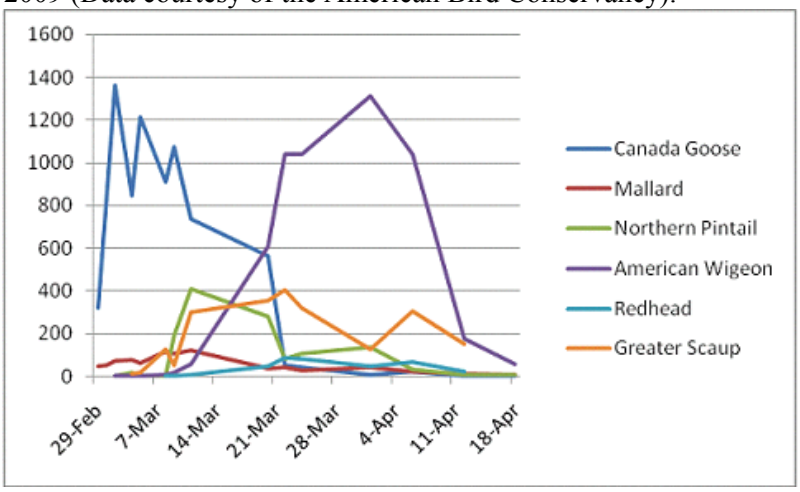
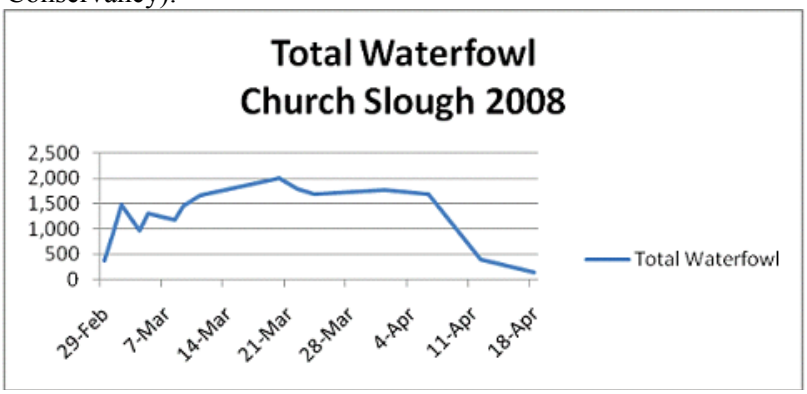


Figure 11. The total number of waterfowl using Church Slough, March through mid-April 2008 (Data courtesy of the American Bird Conservancy).



Following the migration of spring waterfowl, relatively low numbers of waterfowl use the slough. FWP and the American Bird Conservancy monitor bird use of the slough and suspect that some cavity-nesters (wood duck, common goldeneye, hooded merganser) and Canada geese nest on Church Slough. Some additional upland nesting by mallard, lesser scaup, gadwall, American wigeon, blue-winged and cinnamon teal, and northern shoveler occurs on the interior of the slough, especially since the landowner removed livestock grazing from that area. There is no nesting or brood-rearing data available to quantify the level of the nesting activities taking place. FWP and American Bird Conservancy biologists suspect that the current level of use and Kerr Dam operations affect the timing of refill and the lack of water in the emergent vegetation, which precludes heavy reliance on the slough as brood-rearing habitat, other than perhaps in the more or less secluded inlets on the interior.

Fisheries Species

Bull trout are listed as threatened under the Endangered Species Act (ESA) and individuals seasonally use the slough. During cooler months, the colder water temperatures allow bull trout to use the slough habitat. During an angler creel survey in 2002, a few bull trout were caught in the sloughs along the Flathead River, with low bull trout numbers caught in April, May, September, and February. There is no spawning habitat for bull trout in the slough. Current fishing regulations do not allow angler harvest of bull trout or intentionally fishing for bull trout.

Westslope cutthroat trout are considered a sensitive species in Montana. Similar to the bull trout use levels, westslope cutthroat trout also infrequently use the slough during cooler months. In the 2002 angler creel survey, FWP observed low catch of cutthroat trout only in September in sloughs along the Flathead River. Current fishing regulations for cutthroat include catch and release in the Flathead River and harvest of three daily and in possession in the sloughs.

Other species present include black bullhead, largemouth bass, northern pike minnow, northern pike, peamouth, and yellow perch.

Alternative A - No Action:

Direct: No direct impacts to wildlife and fish are predicted if the county's permit request were denied by FWP. Terrestrial species would continue to use the site, and waterfowl would continue to use the slough as destination on their seasonal migrations. Water-related recreation would continue on the slough from other access points.

Secondary: No secondary impacts to wildlife or fisheries species are expected if the permit request were denied and no site improvements were initiated. However, if the county did proceed with the construction of the parking lot and turn-around, some terrestrial wildlife may avoid the site when humans are present and move to other nearby fields and riparian areas. This is considered a minor impact since no critical wildlife habitat is involved and similar habitat is available.

Cumulative: No cumulative impacts are expected to wildlife or fisheries resources if the permit request were denied.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *The slough provides habitat for fish and wildlife species. Disturbances during construction and project completion will not directly negatively impact fish and wildlife habitat, with the exception of minor impacts due to loss of 45 feet of bank vegetation in the disturbed area. The proposal should not impact the diversity of fish and wildlife species currently using the slough.*

Establishing a public boat launch will not create new uses, but could lead to an increase in boating use. The slough is currently used by boaters that own property on the slough, get permission for access from property owners on the slough, or enter the slough from the Flathead River, where there are both private and public boating accesses. An FWP boating survey in 2008 found that boat use levels have increased in the Flathead River and sloughs during the last 16 years, with summer boat numbers doubling since 2002 and quadrupling since 1992. Current boating use has not been determined to effect changes in wildlife use. If current use or increased boating use were determined to be deteriorating critical habitat or wildlife use, boating restrictions could be implemented to reduce impacts through a petition process to the Montana Fish, Wildlife & Parks Commission.

In addition, the boat ramp is to be constructed to only three feet of depth below the summer full pool lake elevation. The ramp will provide access for boat trailers at full pool elevation. Kerr Dam at the south end of Flathead Lake controls the top 10 feet of water elevation on Flathead Lake. The full pool lake level raises the elevation of the Flathead River and Church Slough to the full pool elevation. Full pool elevation is usually reached in early to mid-June as Flathead Lake fills during spring runoff. The water elevation drops from full pool in late October as water is released from Kerr Dam. The proposed boat ramp would allow trailer use during the high pool level in the summer and fall months.

Prior to this proposal many legal and illegal introductions of fish species have occurred. This proposal does not increase opportunity for these introductions to occur in the future since boat launching is not required for introductions and public access already exists to the slough at this site, through private lands and from the river. The boat ramp may increase public boating and boat use on the slough, which would increase the opportunity for introductions of other nuisance species including plants and small aquatic organisms into the slough. This opportunity currently exists since boat owners can launch their boats through private property on the slough or enter the slough from the Flathead River.

If the ramp increases boating use in summer months, bull trout will not be impacted since bull trout will not be in the slough at this time due to warm water temperatures. Grizzly bears are also listed as threatened under the ESA. Grizzly bears use the Flathead River corridor including riparian habitat along sloughs. Although the construction site does not provide grizzly bear habitat, other properties along the slough could. It is not expected that any potential additional boat use associated with this proposal would impact grizzly bear use of the surrounding areas.

Other unique wildlife species that use the slough include bald eagles, migrating waterfowl, and river otters. Ice cover and low pool elevations will result in limited boating use of the proposed ramp in winter and spring. The slough is currently open to waterfowl hunting in fall months. The proposed site may

increase waterfowl hunter access to the slough during fall months prior to ice formation. Church Slough is an important resting area for migrating waterfowl in early spring when open waters are limited. Upwards of 100,000 waterfowl utilize Church Slough during the months of April. If use of the ramp increases prior to full pool levels, an opening date for boat use could be considered to mitigate impacts. The lake is near low pool level at the end of April, and the proposed ramp will be at an elevation of about seven vertical feet above the water level. Migrating waterfowl should not be impacted by the ramp proposal since the ramp would be above the water level in spring making it unusable to boaters when waterfowl are migrating. Ice cover could also limit boat use at this time of year. If the proposal increases boating use and leads to unacceptable disturbance of fish or wildlife species, boating, fishing, and hunting regulations could be implemented to mitigate impacts.

If the proposal increases boating use and leads to unacceptable disturbance of fish or wildlife species, boating, fishing, and hunting regulations could be implemented to mitigate impacts.

Impacts to Terrestrial and Fisheries Habitat:
Critical or important habitat for terrestrial or fisheries species would not be negatively impacted if the 124 permit were approved for the installation of a concrete boat ramp and associated improvements (parking lot and turnaround) at the site. Critical habitat is defined by the U.S. Fish and Wildlife Service (2002) as "a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection." There is no critical habitat identified for any species present along Church Slough.

No impacts are anticipated to transient grizzly bears moving through the Flathead Valley if the boat ramp is constructed. Grizzlies have been recorded at various locations within the Flathead Valley since 1975 (MNHP 2013) and are likely to be seen in the valley in the future as they move between mountain habitats and forage along streamside vegetation. The establishment of a formal boat ramp area is not expected to draw grizzly bears specifically toward Church Slough. Use of bear-resistant garbage receptacles and informational signage to be "bear aware" at the site would help make the boat ramp area less of an attractant to grizzlies.

The installation of the boat ramp and the associated site improvements are likely to deter some terrestrial wildlife from using the property because of human presence. At what level wildlife would avoid the area is unknown; however, the entire area around the slough has been influenced by human activities since the early 20th century. Resident and transient wildlife of the area may be accustomed to human presence because of the development of residences in the area, existing farms, a county road that ran along the shoreline through the site, and the realignment of Wagner Lane, so that the installation of a formal boat ramp would have negligible negative impacts to them.

Year-round access to the slough at this public site may also increase angling pressure during the winter on the ice and summer from boats or the shoreline, although this use is not new since currently there is other public access and there previously was public access to the slough at this site. Any increased fishing at the slough is not expected to decrease the species present nor diminish the quality of the fishery that extends into the Flathead River. Existing FWP fish regulations would still be in effect, thus controlling catchable limits of game fish and protecting sensitive species such as bull trout.

FWP is responsible for setting and enforcing regulations (ARM 23-2-501 through 540) related to the operation of boats and personal water craft on waters within the state as well as for laws for the protection of wildlife. One such law applicable for this project is state Statute 87-6-405(b) that prohibits the use of a self-propelled vehicle, such as a boat or personal water craft, to intentionally concentrate, drive, rally, stir-up, or harass wildlife, which provided FWP the authority to penalize those who intentionally disturb wildlife and to establish restrictive rules for the usage on the slough if necessary in order to protect wildlife. A complete summary of boating regulations can be found at: http://fwp.mt.gov/recreation/regulations/boating/boatRules.html.

Impacts to Waterfowl:
Church Slough's waterway and interior rim does provide important habitat for waterfowl, especially during their spring migration, with important habitat being as one that provides security, forage, and other life history requirements with a high level of consistent use and amount of use. The importance of the interior rim's function to waterfowl is the reason the Louden Farm Conservation Easement was completed in 2009.

The county property shoreline may provide waterfowl with cover and forage depending upon the water level and the depth of shoreline.

The FWP Commission has the ability to institute seasonal closures for the use of Church Slough to reduce disturbances to waterfowl. The closure could restrict the use of the slough by all water craft for a specific period of time when waterfowl are present in great quantities during their migrations through Flathead Valley.

Impacts to Bald Eagles:
FWP does not expect the proposed project to adversely affect bald eagles in the vicinity of Church Slough. In 2007, bald eagles were removed from the federal threatened and endangered species list in Montana. The 2010 Montana Bald Eagle Management Guidelines, an Addendum to Montana Bald Eagle Management Plan (2010), provides recommendations to minimize or avoid impacts to bald eagles. These guidelines recommend seasonal restrictions on activities that may disturb eagles during the most sensitive breeding period (February through May). The boat ramp facility would likely not be fully used by boaters until late April after the ice fully melts away and the water level begins to rise. The guidelines also

recommend that construction of new marinas with routine use of 6 or more boats be located ¼ mile away from a nest if a visual buffer is present and ½ mile away if there is not a visual buffer or located only as close as existing tolerated similar activity. The closest nests are located at a greater distance than the ½ mile from the county's property.

Secondary: The establishment of a formal boat ramp area may increase the number of wildlife viewers that come to the slough to see the waterfowl migrations. The adoption of a seasonal closure of the slough to protect migrating waterfowl would likely be inconvenient to some slough users because boating would be restricted. However, this type of restriction would be for a limited time period and would not diminish the overall use of the slough by recreationists on an annual basis.

Cumulative: Minimal cumulative impacts are anticipated if FWP approves the county's request for a 124 permit. Terrestrial habitat values adjacent to Church Slough are not expected to measurably change since most of the lands are already developed by private landowners along the slough's exterior rim, while others are likely to be developed in some manner in the future (i.e., Lower Valley Subdivision). Whereas, the interior rim and a portion of the northeastern exterior rim, that includes 165 acres of wetland and 130 acres of upland habitat, is protected by a conservation easement (FLT 2009).

Alternative C - Carry-in Boat Ramp Option:

Direct: No impacts are expected to occur to wildlife or fisheries species with the construction of a carry-in boat launch and associated site improvements. As previously described for the direct impacts for Alternative B, critical wildlife habitat has not been designated at the county property, no threatened or sensitive species use the site, and any minor impacts can be mitigated.

The slough is important habitat for migrating waterfowl, especially during early March through mid-April. Impacts to migrating waterfowl can be minimized by adoption of water use restrictions by the FWP Commission during those high-use periods.

Secondary: The establishment of a parking lot at the site may increase the number of wildlife viewers that come to the slough to see the waterfowl migrations. The adoption of a seasonal closure of the slough to protect migrating waterfowl would likely be inconvenient to some slough users because boating would be restricted. However, this type of restriction would be for a limited time period and would not diminish the overall use of the slough by recreationists on an annual basis.

Cumulative: Cumulative impacts are predicted to be same as described for Alternative B.

3.5 Water Resources

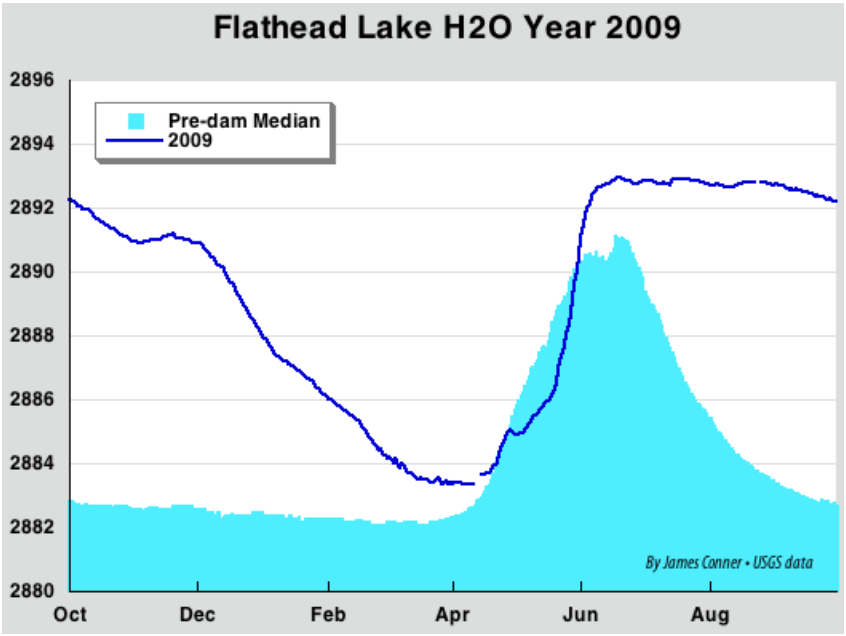
Church Slough is an oxbow slough of the Flathead River approximately 8 miles south of the city of Kalispell. Its water levels are closely connected to the pool levels of Flathead Lake.

With the completion of Kerr Dam in 1938, the pool level of Flathead Lake was held at full pool all summer and into fall. The Flathead River runs into the lake at the northern end, and the increased elevation of the lake surface backs up water in the Flathead River for approximately 22 miles to just above the confluence with the Stillwater River. The deeper depths and reduced current speed increased motor boating opportunities in these river miles.

During summer months when the elevation of Flathead Lake raises the river surface elevation, the river and sloughs become popular with motor boaters. The popularity of boating grew on the Flathead River upstream from Flathead Lake as the human population in the Flathead Valley grew. Historically, a flow restriction at the outlet of Flathead Lake caused lake levels to rise close to full pool level during spring runoff, but then drop to low pool within 6 to 8 weeks as flows subsided (Figure 12). This filling begins in May with Flathead Lake typically filling to within three feet of full pool by Memorial Day, to full pool by June 15, and then remaining at full pool until after Labor Day. The slough drops to lowest water surface elevation in the winter months, generally reaching lowest levels in late February. The level remains low until spring runoff of the Flathead River begins to fill Flathead Lake and the management cycle of the water levels begins again.

In the Flathead River and sloughs, relatively little boating occurs prior to the increased water elevations, since there are more hazards at low water levels, making it difficult to launch a boat. The four busiest months of boating on the slough correspond with the increased elevations in June and the warming summer air temperatures.

Figure 12. Surface elevations on Flathead Lake in 2009 and median values prior to construction of Kerr Dam (chart provided by Flathead Lakers).



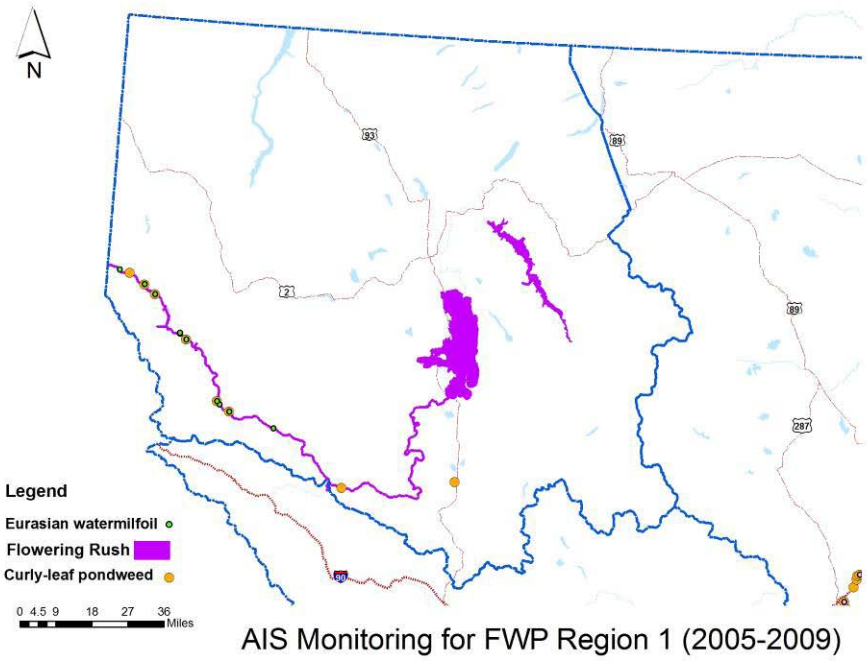
The physical characteristics of Church Slough provide attractive conditions for boaters and water skiers. The small size, shallow depth (max. of 35 feet), and wind protection create relatively calm surface and warm water. The water temperature in the slough approaches 70 degrees in mid-July and remains warm into mid-September. Larger lakes in the area are generally rougher and colder than the slough. There are 32 lakes larger than 100 acres within a 45 mile radius of Kalispell, MT, including Church Slough. These lakes range in surface acres from just over 100 acres to the largest, Flathead Lake at 122,885 acres.

Portion of the county's property is classified as within a 100-year floodplain (FEMA 2007); areas primarily near the slough's shoreline are within this designation. The proposed project would require the submission for a Floodplain Development Permit application because the project is within a 100-year floodplain to the Flathead Planning and Zoning Department.

Aquatic Invasive Species in the Flathead Valley: FWP, in coordination with Montana Department of Agriculture and Montana Department of Natural Resources and Conservation, monitors the state's bodies of water for all aquatic invasive species (AIS) including, but not limited to: zebra/quagga mussels, curly leaf pondweed, flowering rush, New Zealand mudsnails, and Eurasian watermilfoil.

To date, no aquatic invasive species (AIS) have been recorded in Church Slough. There are no known populations of New Zealand mudsnails west of the continental divide and no known populations of zebra or quagga mussels in the state. The following map shows where AIS have been recorded in northwest Montana 2005 through 2009 with most incidences occurring downstream of Flathead Lake.

Figure 13. Known AIS locations in Northwest Montana.
Data sources for map: FWP and MT Dept. of Agriculture.



Within FWP Region 1, which includes Church Slough, FWP angler inspection stations were placed at various locations since 2005. Between 2005 and 2008 those locations included Dena Mora (2008), Noxon (2005, 2007, and 2008), and Flathead Lake, Seeley Lake, Salmon Lake and Swan Lake all in 2005. The number of boats inspected at a specific location ranged from 2 to 46 boats during the summer season.

Alternative A - No Action:

Direct: The denial of the county's request for a 124 permit by FWP would have no impact to Church Slough's water resources. The slough's water levels would continue to change depending upon the management of water resources through the Kerr Dam.

The risk for the spread of AIS within the Flathead Valley would continue to be an ongoing concern to state officials because thousands of resident boats move within the state and many more come from other states. The AIS Program would continue to implement the proactive approach that is currently employed (inspection stations and education efforts) in decreasing spread of AIS within the state. Montana's AIS program's foundation is based on early detection and monitoring. Early detection is through completion of risk assessments of water bodies on a regular basis as well as the placement of watercraft inspection stations at strategic locations throughout the state. FWP has the ability to increase the number of boat inspection stations as necessary to meet the threat level of AIS within the state.

Secondary: A potential consequence of the No Action Alternative is that without a permit the county would not have the opportunity to build the boat ramp, which could lead to an increase in the number of private boat ramps being built along the shoreline of Church Slough. An increase in private boat ramps may contribute to negative impacts from water quality within the slough attributed to a decrease in shoreline vegetation from construction of ramps and increase sediment from shoreline erosion into the water.

Cumulative: Use of the water resources of the slough may be impacted in the future by additional development of residences and associated infrastructure (private boat ramps, septic systems, etc.). The lack of a formal boat ramp may be an incentive for private landowners adjacent to the slough to construct their own ramps. The slough would continue to be a destination for anglers and wildlife viewers in watercraft who access the slough from the Flathead River or private property.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *Construction of the launch will disturb the bank and potentially introduce fine materials into the water body. Flathead County proposes mitigation actions to minimize the opportunity for sediment introductions including placing rock riprap along the disturbed bank to reduce erosion and completing construction during the lower lake pool elevations so construction can be done while the site is dry, and the disturbed area will be reseeded following construction. Following the above actions will result in insignificant introductions of fine sediments to Church Slough.*

The construction of the boat ramp would extend approximately 35 feet into the water and 70 feet away from the water into the interior of the property.

The threat of spreading AIS into Church Slough if the permit were approved is considered to be minor because the concrete ramp would not change existing access to the slough from the Flathead River and private land, and there previously has been boating access at the site. Access to the slough from the site would only be made more permanent by the improvements, and the risk of AIS would never be zero. Construction of the proposed ramp does not create an additional vector for introduction to the slough or to the greater Flathead System. This opinion is rendered by FWP's AIS Program Manager. Additionally, the permanent improvements may provide more opportunity for additional signage to remind boat and personal watercraft owners to clean and dry their vessels to minimize AIS risks.

Secondary: A minor secondary impact to water resources would be that the breaching of the channel bank would create an opening for floodwater to extend into the interior of the property. As previously noted, portions of the

property are designated within a 100-year floodplain. The boat ramp, parking area, and turn-around may become inundated with water if a flood event occurs.

Cumulative: The construction of a public ramp on Church Slough may decrease the potential for private landowners adjacent to the slough from building their own boat ramps, thus decreasing potential for the channel bank's height from being disturbed in numerous locations. Numerous bank breaches may contribute to the increased flooding of low-lying areas close to the slough.

Alternative C - Carry-in Boat Ramp Option:

Direct: The carry-in boat ramp design would require fewer disturbances to the shoreline of the slough, thus impacts to water resources would be reduced. Any disturbances to the shoreline would be to ensure the public's safety when moving a boat or personal watercraft between the parking lot and the water.

The threat of spreading AIS into the slough would be identical as described for Alternative B.

Secondary and Cumulative: No secondary or cumulative impacts are expected for this alternative.

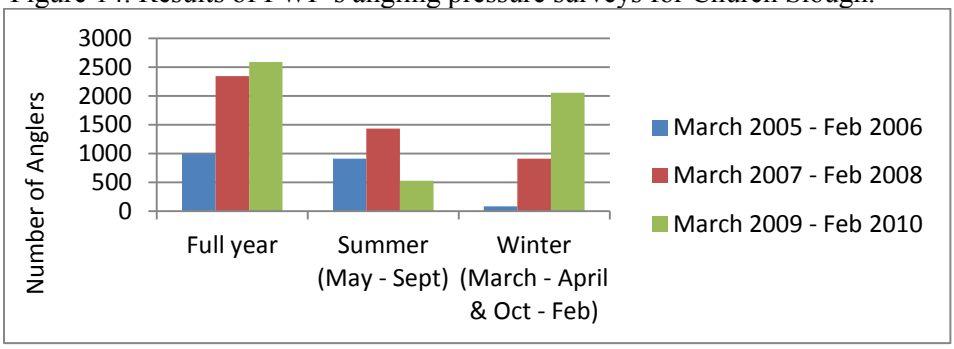
3.6 Aesthetics and Recreation Opportunities

During summer months when the elevation of Flathead Lake raises the river surface elevation, the river and sloughs become popular with motor boaters. The popularity of boating grew on the Flathead River upstream from Flathead Lake, including Church Slough, as the human population in the Flathead Valley grew. Active boat and personal watercraft registration in Flathead County at the end of 2008 was 14,301 (MVD personal communication 3/26/13).

Boaters can access Church Slough from the Flathead River, as well as from private properties adjacent to the slough. Public access sites on the river upstream and downstream from the slough include: FWP's Sportsman's Bridge Fishing Access Site (approximately 9.5 miles upstream), FWP's Old Steel Bridge Fishing Access Site (approximately 10 miles downstream), and the Flathead County boat ramp at the River Ranchettes Subdivision (approximately 6 miles downstream).

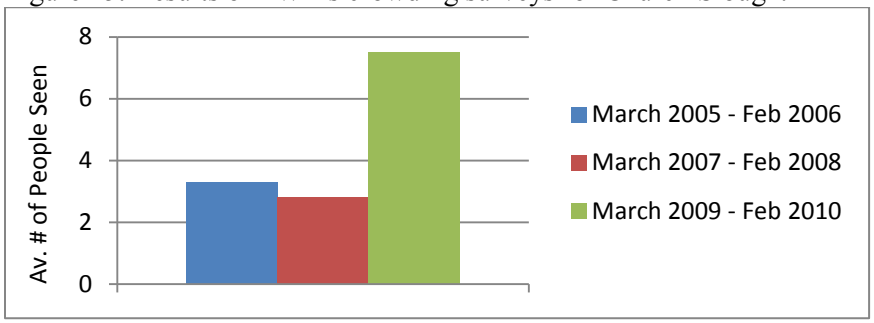
FWP completes angling pressure surveys every two years. The following chart reflects the angling pressure on Church Slough over the last four survey periods broken down into full year, summer, and winter results.

Figure 14. Results of FWP's angling pressure surveys for Church Slough.



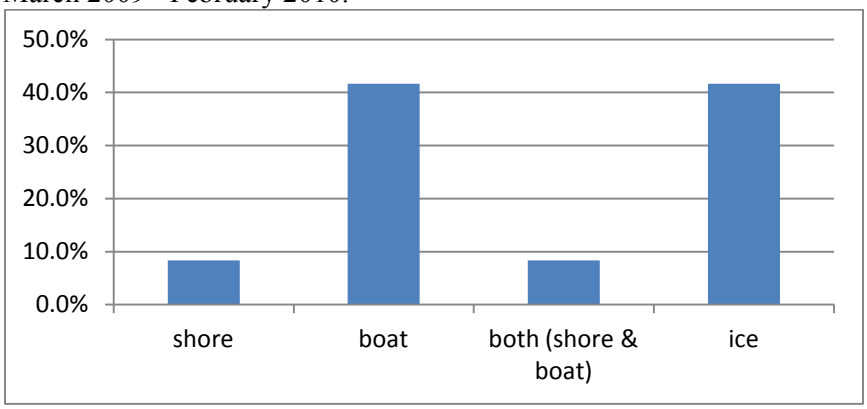
In conjunction with the angling pressure surveys, FWP completed a crowding survey that reflects the number of people seen on a body of water and the level of crowding that is perceived by the respondent. The following chart reflects results for the average number of people seen at Church Slough during each survey period.

Figure 15. Results of FWP's crowding surveys for Church Slough.



Starting with 2009 statewide angling surveys, FWP began to ask respondents by which methods (boat, shore, both, and ice) they accessed the water body. The results of that survey are reflected below.

Figure 16. Access methods of anglers to Church Slough between March 2009 - February 2010.



FWP has surveyed the reach of the Flathead River downstream from Flathead Lake and its connected sloughs in 1992, 2002, and 2008 to estimate the number of boating trips. The highest boating levels were observed in the four summer months, June through September. The three estimates showed a rapidly increasing trend in boater use of the Flathead River and sloughs during the summer months. Estimated summer boat numbers in the river and sloughs almost doubled between 2002 and 2008 based upon boating surveys completed by FWP and more than quadrupled since 1992 (Deleray and Cavigli 2009). Over the 16-year period, there has been an increase in boating in all four months, with July and August showing the largest increases. Boating use in the sloughs alone more than doubled between the 2002 and 2008 surveys. The four busiest months of boating on the slough correspond with the increased water elevations in June and the warming summer air temperatures. Boater numbers on the sloughs were highest on weekends and in July and August.

The FWP 2008 estimate for boating use on the Flathead River sloughs was 1,568 boating days. This use was spread across the six sloughs that are connected to the Flathead River. Church Slough comprises 34% of the total surface acres of these sloughs. If boater use is proportional to surface area, Church Slough would contribute 533 days of boating. There are no motor size restrictions on boats that originate at any of these sites.

Church Slough is identified as one of thirteen of Flathead Audubon's "Birding Hotspots in the Flathead Basin" in the Flathead Valley that offers great opportunities to see a variety of bird species. See Section 3.4 for a list of waterfowl species that have been observed at the slough.

Alternative A - No Action:

Direct: If FWP were to deny the county's permit request, the current public boat ramps at Sportsman's Bridge Fishing Access Site, Old Steel Bridge Fishing Access Site, and the River Ranchettes Subdivision would likely receive higher levels of use by motorboats and personal watercrafts owners wanting to use the slough and the nearby stretch of the Flathead River. The popularity of water recreation on the Flathead River and its sloughs is likely to continue as the trends of usage increase, as previously described.

Shoreline and ice fishing opportunities, as well as wildlife viewing, would continue to be available to users of the county property.

Secondary: A denial of the permit would mean the county was not meeting the requirements of 7-14-2615(3) MCA in that the county was legally required to replace the public's access to the slough after the abandonment of the original path of Wagner Lane occurred, since Wagner Lane was used to provide legal access to public waters. Lack of a legal access to public water (i.e., Church Slough) may result in litigation against Flathead County.

Cumulative: The denial of the 124 permit would be counterproductive to the goal of the 2009 Flathead County Parks & Recreation Master Plan that seeks

to "acquire, develop, and maintain new parks and recreation facilities to meet the needs of a growing population."

Alternative B - Approval of County Plans and 124 Permit:

Direct: *Construction of a boat ramp could restore some boating use lost when the Wagner Lane right of way was abandoned. Public use can now only occur by boating up or down the Flathead River to Church Slough. Increased use could lead to reduced quality for users who desire lower use conditions. Construction of a boat ramp would allow for safer access to Church Slough during winter ice fishing.*

The replacement of the historic boat ramp may increase angling pressure on fisheries resources, but not to the detriment of the overall quantity or composition of the species present. Fish regulations would still be in effect and enforced by FWP staff, thus controlling catchable limits of game fish and protecting sensitive species such as bull trout.

Additionally, the use of motorized and nonmotorized personal watercraft at the slough may increase as well if the water-based recreation use trend continues to climb. Usage baseline and trend are unavailable for the slough, thus quantification of an actual increase of use cannot be predicted.

If future boating and personal watercraft use is found to negatively impact wildlife and fisheries habitat or protection of public safety, FWP does have the authority to establish regulations to restrict usage of the slough, such as establishing a no-wake zone to reduce boating use by restricting boaters who wish to water ski or boat at faster speeds. The no-wake rule may attract additional nonmotorized boaters who are looking for calmer conditions. A no-wake restriction could move some boaters to other water bodies, thus increasing usage levels at those locations.

Shoreline and ice fishing opportunities, as well as wildlife viewing, would continue to be available to users of the county property.

FWP's approval of the 124 permit would mean the county would meet the requirements of 7-14-2615(3) MCA in that the county would be providing the public with a replacement legal access site to the slough to the one lost when Wagner Lane was realigned.

Secondary: Also planned by the county is the planting of spruce trees along the northern boundary of the property adjacent to the parking and turnaround areas to provide a visual barrier between the public use site and the neighboring property. The visual barrier would also enhance the aesthetic values of the site.

The establishment of a year-round public access point to the slough may increase wildlife viewing at the slough, especially during the spring migration of waterfowl (see Section 3.4 for additional information about waterfowl use). Additionally, a formal public use area may decrease vandalism and trespass on neighboring properties by those attempting to access the slough for bank fishing.

Cumulative: The approval of the 124 permit and the subsequent establishment of a formal boat ramp area would contribute toward one of the goals of the 2009 Flathead County Parks & Recreation Master Plan that seeks to "acquire, develop, and maintain new parks and recreation facilities to meet the needs of a growing population." The development of the site would assist the county in meeting the increasing popularity of water-based recreation within the county.

Alternative C - Carry-in Boat Ramp Option:

Direct: Identical for Alternative B, a carry-in ramp would restore some boating use lost when the original Wagner Lane right of way was abandoned. As described for Alternative B, overall use may continue to increase if the popularity of water-based recreational activities continues to rise throughout the Flathead Valley.

The design of the ramp, being carry-in only, would limit some types and sizes of watercraft that could be launched at the site. Larger boats would need to use other public ramps at Sportsman's Bridge Fishing Access Site, Old Steel Bridge Fishing Access Site, and the River Ranchettes Subdivision, which may be inconvenient to some boat owners.

Implementation of this alternative would not impact the actual types of boats and watercraft recreating on the slough since all types of vessels would still be able to access the slough from Flathead River and private boat ramps.

Secondary: The potential need for larger boats to use alternative public boat ramps in the vicinity of Church Slough may lead to additional congestion at those sites, both in the water near the ramps and in their associated parking lots.

Cumulative: Similar to Alternative B, implementation of a carry-in boat ramp would contribute to the goals of the county's 2009 Parks & Recreation Master Plan in developing facilities to support water-based recreation within the county.

3.7 Community

The largest city within the Flathead Valley is Kalispell, with a 2010 estimated population of 19,928, with an associated urban area estimated population of 90,928 (CEIC 2010b). Kalispell is approximately 7.5 miles northwest of Church Slough. The communities of Somers and Big Fork are south of the slough, 6.5 and 11.5 miles respectively. The

populations of the nearby communities of Somers and Bigfork have increased 99% and 200%, respectively, between the 2000 and 2010 US Censuses (CEIC 2010a).

Church Slough is surrounded by residential homes and farms, with few open properties remaining. One farm within the center of the slough's oxbow was established in 1911 (FLT 2009).

Alternative A - No Action:

Direct: If FWP denies the county's permit request, the current public boat ramps at Sportsman's Bridge Fishing Access Site, Old Steel Bridge Fishing Access Site, and the River Ranchettes Subdivision would likely receive higher levels of use by recreationists wanting to use the slough and the nearby stretch of the Flathead River.

A denial of the permit would mean the county may not be meeting the requirements of 7-14-2615(3) MCA in that the county was legally required to replace the public's access to the slough after the abandonment of the original path of Wagner Lane occurred, since Wagner Lane was used to provide legal access to public waters. Lack of a legal access to public water (i.e., Church Slough) may result in litigation against Flathead County.

Secondary: The county may continue forward with their plans to construct a parking lot and turn-around at the site, which would provide a walk-in-only access to the slough to the public for shoreline fishing and wildlife viewing. Any other uses for the site by the county are unknown to FWP at this time.

Cumulative: Cumulative impacts to community resources are unknown, yet the denial of the permit would not contribute to the County Growth Plan goal for parks and recreation to "maintain and/or increase the current level of service of park facilities and recreation services in Flathead County relative to the population growth and public demands and expectations."

Alternative B - Approval of County Plans and 124 Permit:

Direct: *Construction of a boat ramp would be expected to cause a minor increase in use of the first ½ mile of Wagner Lane and on Lower Valley Road by vehicles pulling boats on trailers.*

If construction of the turnaround and boat ramp results in increased public use during summer months, the county may incur increased maintenance costs. The proposal will not create new need for governmental services at this site. The public access currently exists and will continue, which will result in future maintenance costs regardless of whether or not the proposed project is constructed.

Secondary: The establishment of a formal boat ramp area would likely require that the county commit to provide routine maintenance to the site for weed management, garbage removal, and upkeep of the boat ramp and associated improvements to ensure public safety and the aesthetic values of the site.

Cumulative: The approval of the 124 permit and the subsequent establishment of a formal boat ramp area would meet one of the goals of the 2009 Flathead County Parks & Recreation Master Plan that seeks to "acquire, develop, and maintain new parks and recreation facilities to meet the needs of a growing population." The development of the site would assist the county in meeting the increasing popularity of water-based recreation within the county. See Section 3.6 for additional information about recreation.

Alternative C - Carry-in Boat Ramp Option:

Direct, Secondary, and Cumulative: Impacts to community resources are anticipated to be similar to those described for Alternative B.

3.8 Air Quality

National Ambient Air Quality Standards are set by the U.S. Environmental Protection Agency (EPA) as a requirement of the Clean Air Act. EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants; they are carbon monoxide, lead, nitrogen oxides, ozone, particle pollution, and sulfur dioxide. Particle pollution is actively monitored by Montana Department of Environmental Quality (DEQ) in the Flathead Valley at multiple locations; however, the air quality stations located in Columbia Falls are considered the most representative and protective of the entire Flathead Valley and are the closest monitoring stations to Church Slough.

Particle pollution is a mixture of microscopic solids and liquid droplets suspended in the air (EPA 2005) and are broken down into two different designations by the EPA: fine particle ($PM_{2.5}$) and coarse particles (PM_{10}). Fine particles, such as those found in smoke and haze, have an aerodynamic diameter of 2.5 micrometers and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries, and automobiles react in the air. Studies have shown that $PM_{2.5}$ concentrations in the ambient air of western Montana result primarily from wildfires in the summer and from residential wood burning in the winter. Coarse particles, such as those found near roadways and dusty industries, have an aerodynamic diameter of 10 micrometers and smaller. Particle pollution standards were reevaluated and set by the EPA in 2012 for both $PM_{2.5}$ and PM_{10}. Standards for a 24-hour period are 35 micrograms/cubic meter and 150 micrograms/cubic meter respectively.

The following graphs summarize the annual air quality measurements between 2005 and 2009 for both particle pollution designations during the typically high water-use seasons (May 1 - Oct. 31) at Columbia Falls. There were no data collected for $PM_{2.5}$ previous to 2008. None of the measurements reported from Columbia Falls exceed the $PM_{2.5}$ and PM_{10} standards set by EPA during the summer and fall seasons.

Figure 17. Average 24hr $PM_{2.5}$ Air Quality Measurements per Month between May 1 - October 31 in both 2008 and 2009 (Source DEQ 2013).

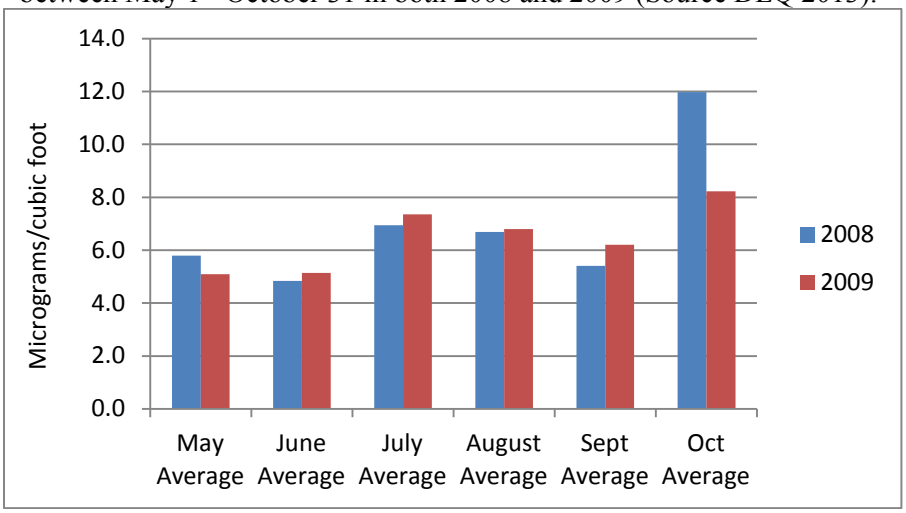
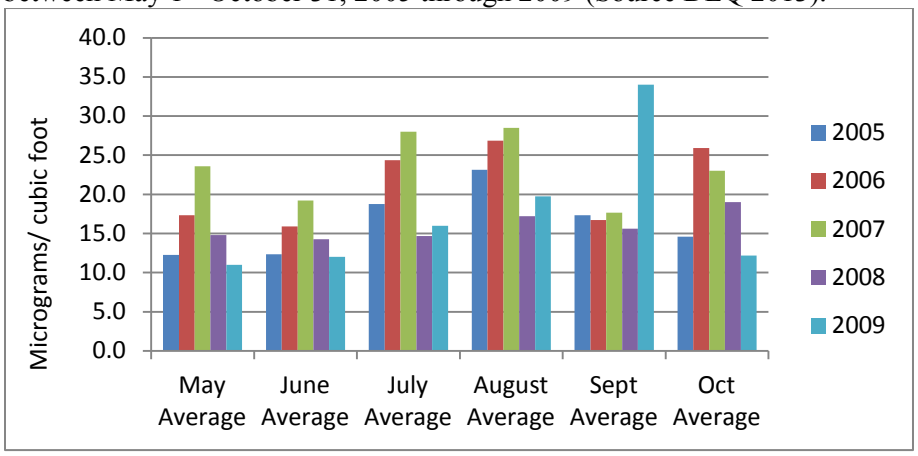


Figure 18. Average 24hr PM_{10} Air Quality Measurements per Month between May 1 - October 31, 2005 through 2009 (Source DEQ 2013).



Factors that impact air quality include the geography of an area, the heating and cooling of the air during the day, local industries, residential wood combustion, and meteorological elements such as changes in weather patterns.

Emission Contributions by Marine Engines

The EPA has been evaluating exhaust emission factors for nonroad engines, including marine engines, since the mid-1990s to assist in rulemaking for setting emission standards. Pollutants that were measured were hydrocarbons (HC), oxides of nitrogen (NOx), carbon monoxide (CO), and particle material (PM).

In the EPA's *Exhaust Emission Factors for Nonroad Engine Modeling – Spark Ignition,* the EPA states for nonroad engines, all PM emissions are assumed to be

smaller than 10 microns (PM_{10}), and 92% of the PM from gasoline and diesel fueled engines is assumed to be smaller than 2.5 microns ($PM_{2.5}$). (EPA 2005)

All 2- and 4-stroke outboard personal watercraft and inboard marine motors emit all four types of the aforementioned pollutants at all horsepower levels. The levels of pollutants would decrease when horsepower levels were increased for HC, CO, and PM for all motors types. Measurements for NOx were consistent for nearly all motor types through different horsepower levels (EPA 2005). Four-stroke motors were reported to have lower emissions than 2-stroke engines at identical speeds. A summary of the PM emissions ranges for outboard and personal watercraft is shown below. Measurement of pollutants for inboard motors was defined by carbureted and direct injection engine types and is shown in the subsequent table.

Figure 19. Particle material emissions for outboard and personal watercraft motors [gram/brake horsepower-hour] (Source EPA 2005).

Horsepower Level	Outboard	Personal Watercraft
0-3	5.5 - 0.06	5.5 - 0.06
3-6	4.8 - 0.06	4.8 - 0.06
6-11	4.1 - 0.06	4.1 - 0.06
11-16	3.4 - 0.06	3.4 - 0.06
16-25	2.7 - 0.06	2.7 - 0.06
25-40	2.6 - 0.06	2.6 - 0.06
40-50	2.5 - 0.06	2.5 - 0.06
50-100	2.2 - 0.06	2.2 - 0.06
100-175	2.2 - 0.06	2.2 - 0.06
175+	2.2 - 0.06	2.2 - 0.06

Figure 20. Particle material emissions for inboard marine motors [gram/brake horsepower-hour] (Source EPA 2005).

Fuel System Type	Particle Material Level
Carbureted	0.06
Direct injection	0.06

Alternative A - No Action:

Direct: The No Action Alternative would not impact ambient air quality or contribute to air quality changes if it were chosen. Air quality of the immediate area surrounding Church Slough would continue to be influenced by traffic patterns on local roads, activities on private lands related to agriculture (i.e., tilling soils, harvesting, etc.), wood burning, water-based recreation, regional weather patterns, and regional seasonal wildland fires.

Secondary and Cumulative: No secondary and cumulative impacts are anticipated to air quality resources if the No Action Alternative were chosen.

Alternative B - Approval of County Plans and 124 Permit:

Direct: The approval of the 124 permit by FWP is not expected to have any direct adverse impacts to the ambient air quality of the areas surrounding the slough. Air quality of the immediate area would continue to be influenced by traffic patterns on local roads, activities on private lands related to agriculture (i.e., tilling soils, harvesting, etc.), water-based recreation, regional weather patterns, and regional seasonal wildland fires.

Secondary: The establishment of a formal boat ramp at the slough is not expected to result in a considerable increase in measured concentrations of PM in the ambient air in the immediate area and would not result in an exceedance of the ambient air quality standards in this area (DEQ personal communication 4/28/13). FWP predicts any changes to ambient air quality would likely occur in the area closest to the ramp area where boats and personal watercrafts are idling or moving at the lowest speeds when particle emissions are the highest. As previously described, all marine motor engines contribute some pollutants to the air at various levels depending upon the type of engine (2 or 4 stroke) and the speed at which the watercraft is moving. As boats and personal watercraft increase their speeds, the particle emission levels would decrease. Additionally, air quality changes are also influenced by other factors such as meteorological changes, natural air movements, and topography of a specific area. If there are windy conditions at the slough, odors and emissions from water crafts are expected to dissipate quickly and be less of an impact to people in the immediate area.

Based on the design plans, the improvements would provide parking for 6 vehicles that may or may not be towing a watercraft. If all parking spots were filled by towing vehicles, then FWP assumes that six watercrafts may be accessing the slough from the site during a given period, but because there are no records of user levels, it is difficult to predict which types of watercraft would be using the site. Motorboats and personal watercraft would continue to access the slough from private lands surrounding the slough and the Flathead River.

The overall air quality of areas surrounding the slough is not expected to be negatively impacted with the addition of a limited number of the motorboats and personal watercraft accessing the slough from the county boat ramp. As motorboats and personal watercrafts increase speed to move around the slough or to the Flathead River, pollutants are expected to dissipate as higher speeds are reached and airflow movements near the craft and on the water surface occur.

No data or research could be discovered by DEQ Air Quality Bureau staff that directly investigated at what level emissions from marine motor engines contributed to overall air quality pollutant levels or changes to air quality.

The establishment of a formal parking area and turnaround is expected to have a minor positive benefit to air quality because multiple pioneered vehicle paths that

could have generated dust when used would be minimized. A formal use area would be maintained by the county, and if complaints regarding dust from parking area and turnaround occurred, the county could apply magnesium chloride or similar product to the gravel parking surface to reduce disturbance of fine particulates by vehicles. This type of mitigation could also be used on the existing access road at the property if necessary.

Cumulative: Any water craft accessing the slough from the county's boat ramp in the future would contribute pollutants to the air of Church Slough. At what levels those contributions would be over time cannot be quantified due to too many variables (i.e., usage levels at ramp, meteorological changes, future land uses on adjacent lands, total use of motorized watercrafts on the slough may increase, etc.), and lack of scientific research on the topic. However, these contributions are not predicted to result in significant adverse impacts (i.e., PM levels exceed acceptable EPA standards) to the regional air quality.

Alternative C - Carry-in Boat Ramp Option:

Direct: The approval of the 124 permit for a carry-in boat ramp by FWP is not expected to have any direct impacts to the ambient air quality of the areas surrounding the slough. Air quality of the immediate area would continue to be influenced by traffic patterns on local roads, activities on private lands related to agriculture (i.e., tilling soils, harvesting, etc.), wood burning, water-based recreation, regional weather patterns, and regional seasonal wildland fires.

Secondary: A potential secondary impact may be that in the immediate area of the ramp the ambient air quality diminishes more often since more 2-stroke engines are being used to power the carry-in boats. As previously noted, 2-stroke motors were reported to have high emissions than 4-stroke engines at identical speeds. This impact is expected to be short term as the emissions are dissipated by air flow as the boat begins to speed up.

Impacts from the parking and turn-around area would be the same as decribed for Alternative B.

Cumulative: Potential cumulative impacts of a carry-in boat ramp and associated improvements to air quality are identical of those described for Alternative B.

3.9 Noise and Electrical Effects

As previously described, Church Slough has been a popular recreation destination for wildlife viewing, angling, and motorboat use for many years. Additionally, the lands surrounding the slough have been historically used for farming and more recently, subdivided for residential development.

Elements contributing to additions in ambient noise levels on and around the slough are: traffic on nearby roads, farm equipment, boats and personal watercraft on the slough,

boats and personal watercraft using the Flathead River, and small personal machinery/equipment (i.e., lawn mowers, ATVs, etc.) in the immediate area of the slough.

There are no power lines transecting the county's property. Power lines do connect private residences and associated buildings adjacent to the county property to the local electrical power grid.

Alternative A - No Action:

Direct: Under this alternative there would be no sounds directly contributed to the ambient noise levels from or on the county property. Use of the slough by boats and personal watercraft would continue, and engine noises from those craft may annoy some adjacent landowners depending upon their personal tolerances.

Also, there would be no impacts to electrical uses since there is no electrical infrastructure at the site and current electrical uses at adjacent properties would be unaffected.

Secondary: No secondary impacts are anticipated to noise levels if the No Action Alternative were chosen. However, there would be ongoing changes to noise levels of the local area of the slough from traffic on nearby roads, farm equipment, boats and personal watercraft on the slough, boats and personal watercraft using the Flathead River, and small personal machinery/equipment (i.e., lawn mowers, ATVs, etc.). No secondary impacts to electrical resources are anticipated.

Cumulative: No cumulative impacts to noise and existing electrical resources are anticipated with the selection of the No Action Alternative.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *Boat ramp construction could lead to an increase in existing uses. Motorboats and private watercraft, which originate from private property or from the Flathead River, are currently used on Church Slough. Providing a public launch could increase boater numbers, leading to increased noise levels. If use increases to unacceptable levels, boating regulations could be implemented to reduce noise levels through a petition process through the Montana Fish, Wildlife & Parks Commission. Flathead County could also put restrictions on boats launching at the county property. Montana boating laws currently contain limits to noise levels from watercraft. Motorboats and PWC may not emit noise in excess of 86 decibels measured at a distance of 50 feet. At idle speed, exhaust noise may not be in excess of 90 decibels measured one meter from the muffler.*

Seasonal use of the slough by boats and personal watercraft would also continue, and engine noises from those craft may annoy some adjacent landowners depending upon their personal tolerances. Noise levels can be affected by how

the noise is emitted from the source, distance from the receiver, wind, temperature, humidity, barriers or buildings, temperature, and reflections (Bruer and Kjaer 2000).

Secondary and Cumulative: No secondary or cumulative impacts to noise and existing electrical resources are anticipated.

Alternative C - Carry-in Boat Ramp Option:

Direct: The approval of a carry-in boat ramp may contribute to a seasonal change in the ambient noise levels with the possibility small motorized watercraft would be launched from the site. Engine noises from those craft may annoy some adjacent landowners depending upon their personal tolerances.

Secondary and Cumulative: No secondary or cumulative impacts to noise and existing electrical resources are anticipated.

3.10 Risks and Health Hazards

As the human population in the Flathead Valley has grown over the last decade, so has the popularity of boating on the county's 40 lakes and 3 major rivers (Flathead County 2012), including on Church Slough. The number of boat and personal watercraft registered in Flathead County was reported to be 14,301 in 2008 (MVD personal communication 3/26/13).

There are some inherent risks to personal safety when using motorboats and personal watercraft caused by equipment failure, operator impairment (i.e., use of alcohol or drugs), excessive speed, inexperience of the user, changes in weather and water conditions, and collisions with other boats (USCG 2009). There were 21 boating accidents recorded by FWP enforcement staff within Flathead County from 2005-2009 (FWP 2013). None of the reported accidents occurred on Church Slough.

FWP is responsible for setting and enforcing regulations (ARM 23-2-501 through 540) related to the operation of boats and personal water craft on waters within the state. A complete summary of boating regulations can be found at: http://fwp.mt.gov/recreation/regulations/boating/boatRules.html.

Alternative A - No Action:

Direct: Denial of the county 124 permit would have no direct impacts on risks and health hazards. Water-related recreation on the slough would continue because the waterway would still be accessible from Flathead River and from private boat ramps along the slough.

Secondary: Existing public boat ramps at Sportsman's Bridge Fishing Access Site, Old Steel Bridge Fishing Access Site, and the River Ranchettes Subdivision would likely receive higher levels of use by recreationists wanting to access the slough, which may lead to congestion at those ramps, associated parking areas, and the immediate stretches of the Flathead River at those ramps.

Increased congestion could possibly lead to boating-related incidences (i.e., accidents, recklessness, etc.) at those areas, especially if the popularity of water recreation on the river continues to increase. See Section 3.6 for additional information regarding recreation resources.

Cumulative: No cumulative impacts are anticipated if the permit request is denied.

Alternative B - Approval of County Plans and 124 Permit:

Direct: *Presence of a boat ramp could increase the risk of spill of gasoline or motor oil from a boat. Private watercrafts typically carry small amounts of both substances.*

Additional direct impacts that are predicted, to none or minor include: congestion within the parking area and at the boat ramp, especially during peak summer season, and the need of additional patrols by FWP enforcement staff to ensure current boating regulations are being followed.

Secondary: The construction of a formal boat ramp area at the slough may increase the number of boats actually using the slough, but the exact level of an increase is difficult since no baseline data for boat use for the slough is available, the number of parking spaces would limit the number of towing vehicles parked at any given time, and there is no baseline data available on how many boats and personal water craft enter the slough from the Flathead River. Any additional use on the slough by water craft has the potential to increase the number of boating-related incidents. However, there are too many variables (i.e., weather conditions, operator's experience and health, condition of boat, nearby distractions, etc.) involved to predict if, when, and how many incidences may occur in the future.

Cumulative: The establishment of a formal boat ramp at Church Slough may contribute, over time, to FWP's and USCG's recreational boating accident statistics, but at what level is unknown and impossible to predict for the reasons noted above in the description of secondary impacts.

Alternative C - Carry-in Boat Ramp Option:

Direct: Potential direct impacts of a carry-in ramp are similar to those described for Alternative B.

Secondary: Potential secondary impacts of a carry-in ramp are similar to those described for Alternative B in that in providing a formal boat ramp area, additional watercraft would enter the slough from the site, which could add to congestion or the possibility for water-based accidents.

Cumulative: Potential cumulative impacts of a carry-in ramp are similar to those described for Alternative B.

3.11 Cultural and Historic Resources

American Indians were the first inhabitants of the Flathead Valley with the predominant tribes being Kootenai, the Upper Pend d'Oreille, and the Salish. Traders and fur trappers came to the area in the early 1800s with the homesteading of the valley not occurring until the 1870s and 1880s (DLI 2008).

The two closest communities to Church Slough, Somers and Bigfork, were established in the early 1900s based on their locations on Flathead Lake to accommodate train and lake steamer traffic (Lakeside & Somers Chamber of Commerce 2007).

The property in the interior of slough, Louden Farm, was purchased from the namesake of Church Slough and original homesteader, Christopher Church, in 1911 by the current owner's great grandfather (FLT 2009).

The Montana State Historic Preservation Office was contacted to complete a file search of their database of cultural/historical surveys and no cultural surveys have been completed within or in close proximity of the county property.

Alternative A - No Action:

Direct, Secondary, and Cumulative: No direct, secondary, or cumulative impacts to cultural or historical resources are expected if the county's permit request were denied by FWP.

Alternative B - Approval of County Plans and 124 Permit:

Direct: No direct impacts to cultural or historical resources are anticipated if the permit request is approved and the county installs the concrete boat ramp since the location has been in use as a primitive recreation area previously with no cultural/historic resource being recorded from it (State Historic Preservation Office personal communication 3/26/13).

Secondary and Cumulative: No secondary or cumulative impacts to cultural or historic resources are predicted.

Alternative C - Carry-in Boat Ramp Option:

Direct: No direct impacts to cultural or historical resources are anticipated if the permit request is approved and the county installs the concrete boat ramp since the location has been in use as a primitive recreation area previously with no cultural/historic resource being recorded from it.

Secondary and Cumulative: No secondary or cumulative impacts to cultural or historic resources are predicted.

4.0 Need for an Environmental Impact Statement

Based upon the above assessment, which has identified a limited number of minor negative impacts from the evaluation of all the alternatives, all of which can be directly mitigated by design or actions taken by the FWP Commission or Flathead County below significance based on the criteria described at 12.2.432 ARM, an EIS is not warranted to be prepared and an environmental assessment is the appropriate level of review.

5.0 Public Participation

5.1 Public Involvement

Public notification of the EA release and opportunities to comment will be by:

- A statewide press release;
- Two legal notices in each of these papers: Kalispell's *Daily Inter Lake* and Flathead Valley's *Flathead Beacon*;
- Public notice on the Fish, Wildlife & Parks web page: *http://fwp.mt.gov*

Copies of this EA will be available for public review at FWP Region 1 Headquarters in Kalispell, at local libraries, and on the FWP website.

5.2 Comment Period

The public comment period will extend for (30) thirty days. Public comments are requested on the new alternative and analysis of secondary and cumulative impacts and will be accepted until 5:00 p.m., July 4, 2013. Comments should be mailed to the address below:

Church Slough Supplemental EA
Montana Fish, Wildlife & Parks
490 N. Meridian Road
Kalispell, MT 59901

or e-mail comments to: mdeleray@mt.gov

5.3 Timeline of Events

Public Comment Period	June 3 through July 4, 2013
Publication of Supplemental Decision Notice	Early July 2013

Review of FWP Supplemental EA Document by Flathead District Court

5.4 Offices & Programs Contributing to the Document

American Bird Conservancy, Kalispell, MT
Flathead County, Parks and Recreation, Kalispell, MT
Flathead Lakers, Kalispell, MT
Montana Department of Environmental Quality, Air Quality Bureau, Helena, MT
Montana Department of Justice, Motor Vehicle Division, Deer Lodge, MT
Montana Fish, Wildlife & Parks:
Invasive Aquatic Species Program, Helena, MT

Enforcement Division, Helena, MT
Montana State Historic Preservation Office, Helena, MT
University of Montana, Flathead Lake Biological Station, Polson, MT

6.0 EA Preparers

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Chris Hammond, FWP Nongame Wildlife Biologist, Kalispell, MT
Jim Vashro, FWP Regional Fisheries Manager, Kalispell, MT
John Vore, FWP Wildlife Biologist, Kalispell, MT

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